

In the Claims

1. (Currently Amended) A method for converting a crude starting material comprising 5 to 80% by weight of benzene, other aromatic hydrocarbons and non-aromatic compounds in an amount of at least 1% about 10% by weight to useful C7 and C8 aromatic hydrocarbons comprising:

(A) lowering the content of said non-aromatic compounds by distillation to produce a material having a non-aromatic compound content of 1% by weight or less, and

(B) reacting said material having a non-aromatic compound content of 1% by weight or less in the presence of hydrogen and a catalyst containing H-type synthetic mordenite and between about 0.02 to 2% by weight rhenium at a pressure of from 0.1 to 100 MPa and a temperature of from 200 to 650°C to diminish the benzene content of said material having a non-aromatic compound content of 1% by weight or less and convert at least a portion of said ~~starting~~ material having a non-aromatic compound content of 1% by weight or less into C7 or C8 aromatic hydrocarbons.

2. (Cancelled)

3. (Previously Presented) The method for converting aromatic hydrocarbons as claimed in claim 1, wherein said aromatic hydrocarbon conversion reaction is transalkylation reducing benzene content and C9 content to increase the contents of xylene and toluene in the product.

4. (Cancelled)

5. (Previously Presented) The method for converting aromatic hydrocarbons as claimed in claim 1, wherein the material having a non-aromatic compound content of 1% by weight or less contains C9+ alkyl-aromatic hydrocarbons.

6. (Previously Presented) The method for converting aromatic hydrocarbons as claimed in claim 5, wherein said benzene and said C9+ aromatic hydrocarbons in the material having a non-aromatic compound content of 1% by weight or less are reduced and C7 and C8 aromatic

hydrocarbons in the product are produced.

Claims 7 - 12 (Cancelled)

13. (Currently Amended) The method defined in claim 1, wherein hydrogen is present in contact with said material having a non-aromatic compound content of 1% by weight or less and said catalyst, and wherein said hydrogen has a flow rate of 0.1 and 20 mol/mol in terms of hydrogen/material having a non-aromatic compound content of 1% by weight or less.

Claims 14 – 16 (Cancelled)

17. (New) The method of claim 1, wherein the reaction pressure is between 0.5 and 60MPa and the reaction temperature is between 250 and 500°C.

18. (New) A method for converting a crude starting material comprising 5 to 80% by weight of benzene, other aromatic hydrocarbons and non-aromatic compounds in an amount of at least about 10% by weight to useful C7 and C8 aromatic hydrocarbons comprising:

(A) lowering the content of said non-aromatic compounds by distillation to produce a material having a non-aromatic compound content of 0.5% by weight or less, and

(B) reacting said material having a non-aromatic compound content of 0.5% by weight or less in the presence of hydrogen and a catalyst containing H-type synthetic mordenite and between about 0.02 to 2% by weight rhenium at a pressure of from 0.1 to 100 MPa and a temperature of from 200 to 650°C to diminish the benzene content of said material having a non-aromatic compound content of 0.5% by weight or less and convert at least a portion of said material having a non-aromatic compound content of 0.5% by weight or less into C7 or C8 aromatic hydrocarbons.

19. (New) The method for converting aromatic hydrocarbons as claimed in claim 18, wherein said aromatic hydrocarbon conversion reaction is transalkylation reducing benzene content and C9 content to increase the contents of xylene and toluene in the product.

20. (New) The method for converting aromatic hydrocarbons as claimed in claim 18, wherein the material having a non-aromatic compound content of 0.5% by weight or less contains C9+ alkyl-aromatic hydrocarbons.

21. (New) The method for converting aromatic hydrocarbons as claimed in claim 5, wherein said benzene and said C9+ aromatic hydrocarbons in the material having a non-aromatic compound content of 0.5% by weight or less are reduced and C7 and C8 aromatic hydrocarbons in the product are produced.

22. (New) The method defined in claim 18, wherein hydrogen is present in contact with said material having a non-aromatic compound content of 0.5% by weight or less and said catalyst, and wherein said hydrogen has a flow rate of 0.1 and 20 mol/mol in terms of hydrogen/material having a non-aromatic compound content of 0.5% by weight or less.

23. (New) The method of claim 18, wherein the reaction pressure is between 0.5 and 60 MPa and the reaction temperature is between 250 and 500°C.

24. (New) A method for converting a crude starting material comprising 5 to 80% by weight of benzene, other aromatic hydrocarbons and non-aromatic compounds in an amount of at least about 10% by weight to useful C7 and C8 aromatic hydrocarbons comprising:

(A) lowering the content of said non-aromatic compounds by distillation to produce a material having a non-aromatic compound content of 0.1% by weight or less, and

(B) reacting said material having a non-aromatic compound content of 0.1% by weight or less in the presence of hydrogen and a catalyst containing H-type synthetic mordenite and between about 0.02 to 2% by weight rhenium at a pressure of from 0.1 to 100 MPa and a temperature of from 200 to 650°C to diminish the benzene content of said material having a non-aromatic compound

content of 0.1% by weight or less and convert at least a portion of said material having a non-aromatic compound content of 0.1% by weight or less into C7 or C8 aromatic hydrocarbons.

25. (New) The method for converting aromatic hydrocarbons as claimed in claim 24, wherein said aromatic hydrocarbon conversion reaction is transalkylation reducing benzene content and C9 content to increase the contents of xylene and toluene in the product.

26. (New) The method for converting aromatic hydrocarbons as claimed in claim 24, wherein the material having a non-aromatic compound content of 0.1% by weight or less contains C9+ alkyl-aromatic hydrocarbons.

27. (New) The method for converting aromatic hydrocarbons as claimed in claim 24, wherein said benzene and said C9+ aromatic hydrocarbons in the material having a non-aromatic compound content of 0.1% by weight or less are reduced and C7 and C8 aromatic hydrocarbons in the product are produced.

28. (New) The method defined in claim 24, wherein hydrogen is present in contact with said material having a non-aromatic compound content of 0.1% by weight or less and said catalyst, and wherein said hydrogen has a flow rate of 0.1 and 20 mol/mol in terms of hydrogen/material having a non-aromatic compound content of 0.1% by weight or less.

29. (New) The method of claim 24, wherein the reaction pressure is between 0.5 and 60 MPa and the reaction temperature is between 250 and 500°C.